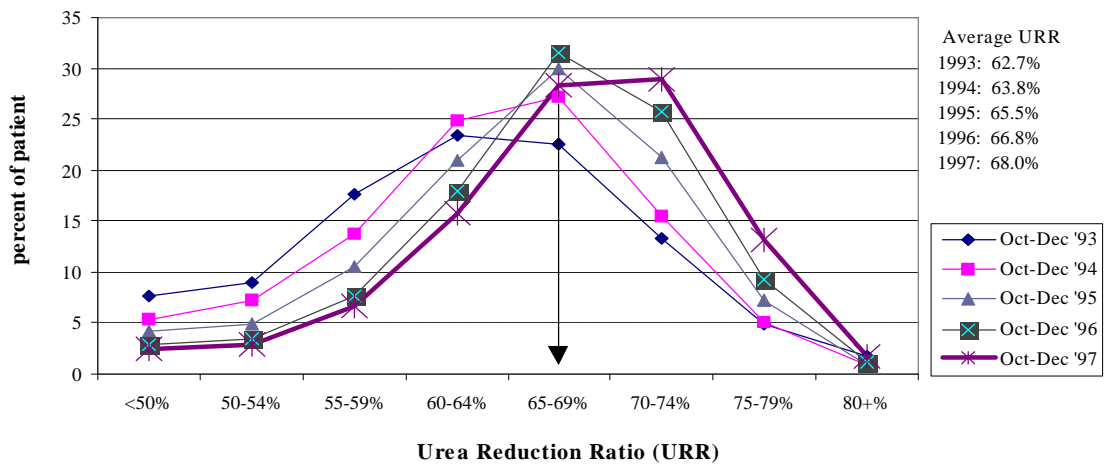


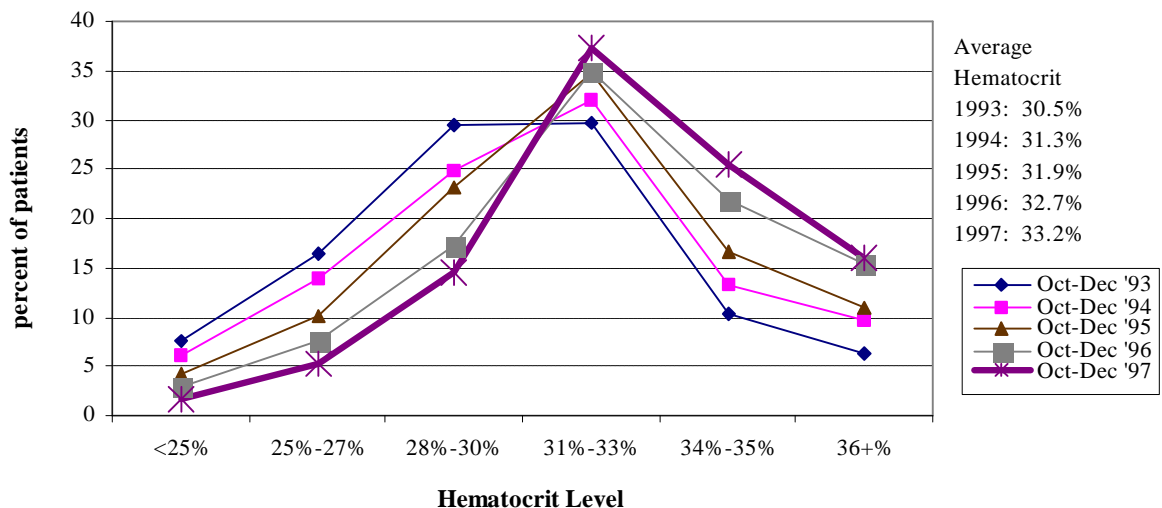
HIGHLIGHTS

from the 1998 ESRD Core Indicators Project for Hemodialysis Patients

Distribution of URR Values



Distribution of Hematocrit Values



A national assessment of clinical indicators to support the efforts of health professionals to improve care for patients with End-Stage Renal Disease.



September 1998

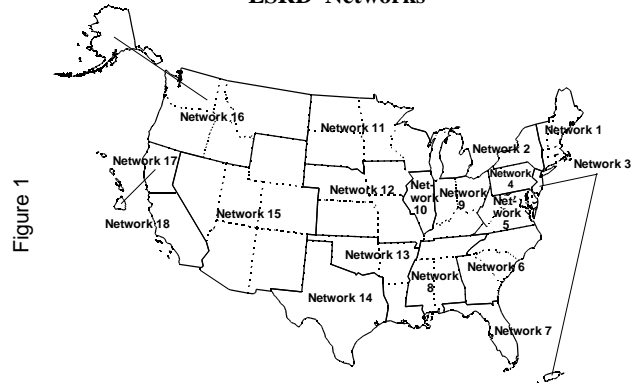


CORE INDICATORS PROJECT

The ESRD Core Indicators Project is a collaborative project between the Health Care Financing Administration (HCFA), the End-Stage Renal Disease (ESRD) Networks (Figure 1), and ESRD dialysis facilities. This project provides an annual snapshot of clinical measures, or core indicators, that assess care surrounding dialysis. The indicators (Figure 2) used in this project were identified by a work group of representatives from the renal community and HCFA. This highlight report provides a comparison of the core indicators results from the last quarters of 1997, 1996, 1995, 1994 and 1993 and compares findings from the last quarter of 1997 to the National Kidney Foundation Dialysis Outcomes in Quality Improvement Guidelines (NKF-DOQI) for Hemodialysis Adequacy and the Treatment of Anemia of Chronic Renal Failure. Sixteen network areas participated in the first ESRD Core Indicators assessment (Oct-Dec 1993); all 18 network areas participated in subsequent years. A more complete report of results will be distributed in the near future.

Data for this project, which focuses on a random sample of over 6,000 adult (aged ≥ 18 years), in-center hemodialysis (HD) patients in each year, were abstracted by staff at more than 2,000 dialysis facilities in the United States. In addition to presenting highlights of findings, this document emphasizes that important improvements in care can still be made.

ESRD Networks



Core Indicators

Adequacy of Dialysis

-as measured by urea reduction ratio (URR)

Hematocrit

Serum Albumin Levels

Figure 2

THE COVER STORY

The two charts on the cover page show the distribution of the urea reduction ratios (URRs) and hematocrit values of adult in-center HD patients for the last quarters of 1993-1997. The charts show that each year there was improvement in the percent of patients achieving a URR $\geq 65\%$ and a hematocrit $>30\%$.

1998 CORE INDICATORS RESULTS

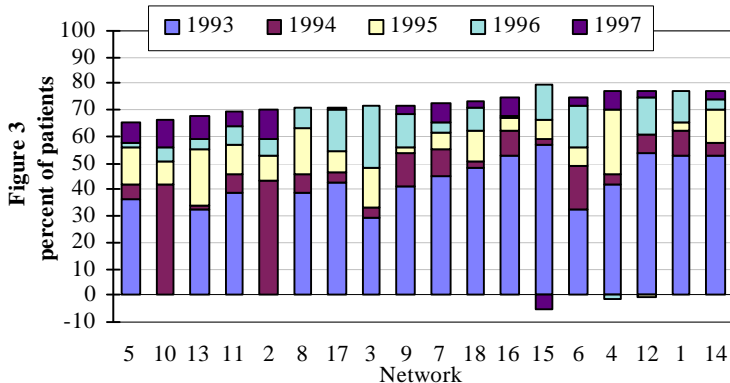
DATA FROM LAST QUARTER 1997

ADEQUACY OF DIALYSIS

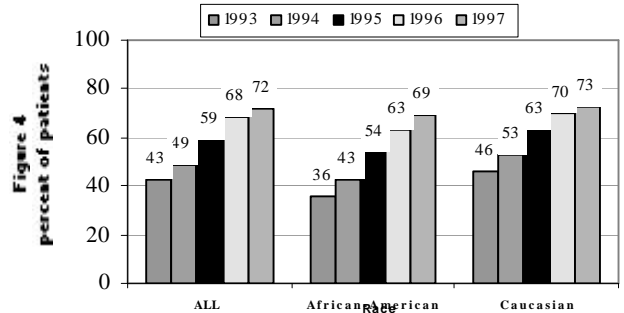
Findings:

- 1 The average URR increased from 67% in late 1996 to 68% in late 1997.
- 1 Measures of dialysis adequacy varied among ESRD Networks. In late 1997, the percent of patients who received hemodialysis with $URR \geq 65\%$ ranged from 65% to 78% (Figure 3).

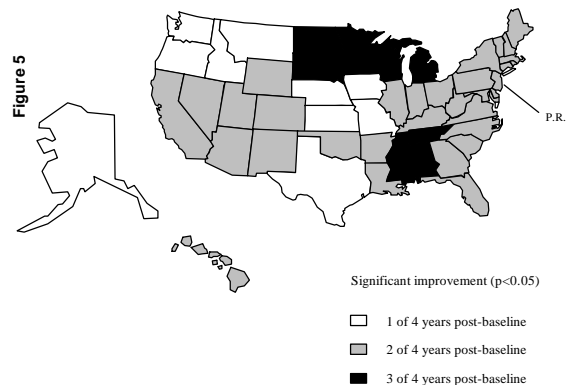
Percent of adult (aged > 18 yrs) in-center HD patients with mean $URR \geq 65\%$, by Network, 1993-1997 compared to previous study years, by Network, 1998 Core Indicators Project



Percent of adult (aged ≥ 18 yrs.) in-center hemodialysis patients with mean $URR \geq 65\%$ in October-December 1997 compared to previous study years, by race, 1998 ESRD Core Indicators Project



Network areas with a statistically significant increase in percent of patients receiving dialysis with $URR \geq 65\%$ from 1993 to 1997



Improvement:

- 1 The percent of patients with a $URR \geq 65\%$ increased significantly (Figure 4 and cover).
- 1 These percentage point increases from 1993-1997 mean that approximately 57,000 more HD patients in the U.S. were receiving dialysis with a $URR \geq 65\%$ in late 1997 than would have been receiving dialysis at this level in late 1993 (see cover).
- 1 Statistically significant improvement ($p < 0.05$) occurred in selected geographic areas (Figure 5).

Findings Compared to the new DOQI Guidelines:

- 1 72% of patients had a delivered dialysis with $URR \geq 65\%$.
- 1 74% of patients had monthly pre- and post- BUN measurements during the study period.

Opportunities for Improvement: Although there was a significant improvement in the percent of patients receiving adequate hemodialysis, further positive gains are needed for the 28% of patients whose URR has been less than 65%. This opportunity to improve care is even greater for African-American HD patients.

HEMATOCRIT

Findings:

- 1 The mean hematocrit (hct) increased from 32.7% in late 1996 to 33.2% in late 1997.
- 1 The percentage of patients with hematocrits >30% varied among the Networks, ranging from 72% to 85% (Figure 6).
- 1 56% of patients had a mean hct \geq 33% over the study period.
- 1 Of patients receiving Epoetin, 90% received by the intravenous route.
- 1 The mean hemoglobin was 10.7 g/dL.
- 1 The average ferritin concentration reported was 505 ng/mL.
- 1 The average transferrin saturation was 29%.
- 1 75% of patients were receiving iron therapy at least one of the study months. Within this group, 76% received iron intravenously, and 38% orally (groups not mutually exclusive).

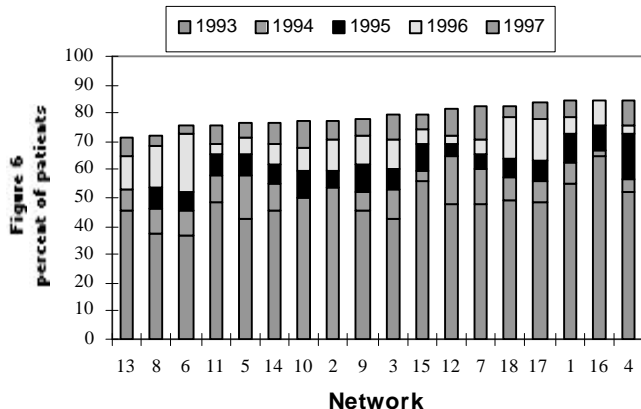
Improvement:

- 1 The percent of patients with a mean hct >30% increased significantly (Figure 7 and cover).

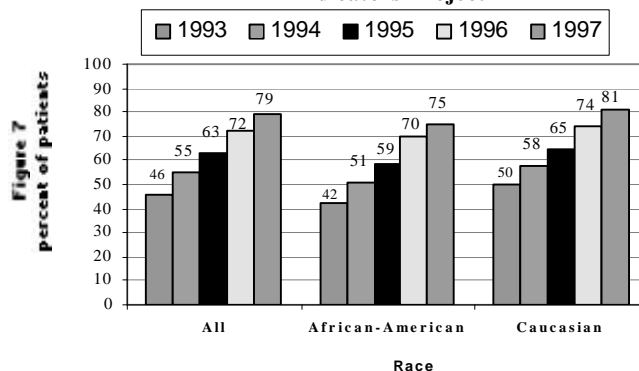
Findings Compared to DOQI Guidelines:

- 1 48 % of patients receiving Epoetin had a hematocrit value within the target range of 33%-36%.
- 1 90% of patients had monthly hematocrit values recorded (During this study period, 84% had monthly hemoglobin values recorded).
- 1 70% of patients had a transferrin saturation \geq 20%.
- 1 81% of patients had a serum ferritin \geq 100 ng/mL.
- 1 11% of patients were receiving Epoetin by the subcutaneous route.

Percent of adult (aged \geq 18 yrs) in-center HD patients with mean hematocrit >30% in Oct-Dec 1997 compared to previous study years, by Network, 1998 ESRD Core Indicators Project



Percent of adult (aged \geq 18 yrs) in-center hemodialysis patients with hematocrit level > 30% in October-December 1997 compared to previous study years, by race, 1998 ESRD Core Indicators Project



Opportunities for Improvement: Although there was significant improvement in the percent of patients with hematocrit >30%, 21% of patients still had hematocrit values below this level. 52% of patients did not have hematocrits within DOQI's target range of 33%-36%.

SERUM ALBUMIN

Findings for the last quarter of 1997:

- 1 Mean serum albumin values determined by the bromcresol green (BCG) laboratory method = 3.8 gm/dL;
- 1 Mean serum albumin values determined by the bromcresol purple (BCP) laboratory method = 3.6 gm/dL; and
- 1 Percent of patients in each Network area with mean serum albumin values \geq 3.5 gm/dL by BCG or \geq 3.2 gm/dL by BCP ranged from 76% to 87%.

Optimal: Although no consensus guidelines have been established, the following initial targets are being used in the Core Indicators Project: \geq 3.5 gm/dL (BCG method) or \geq 3.2 gm/dL (BCP method).

Opportunities for Improvement: There was no clinically important change in the measure of serum albumin concentrations from 1993 to 1997.

Opportunities to improve adequacy of dialysis, hematocrit levels, and serum albumin levels in HD patients remain.

NEXT STEPS

While important improvements occurred from 1993 to 1997, *opportunities to improve care further* for adult, in-center HD patients in the U.S. remain. The purpose of the ESRD Core Indicators Project is to recognize improvement in care to these patients and to support further progress. The ultimate goal for this project is to improve care for all renal dialysis patients.

To facilitate this goal, all ESRD facilities should:

- 1 be familiar with the "Clinical practice guideline on adequacy of hemodialysis" developed by the Renal Physicians Association and the National Kidney Foundation Dialysis Outcomes in Quality Improvement Guidelines (NKF-DOQI) for Hemodialysis Adequacy and the Treatment of Anemia of Chronic Renal Failure;
- 1 be familiar with and use the steps in the "Roadmap for Improvement" described in "A Guide for Improving the Quality of Care of Dialysis Patients; the National Anemia Cooperative Project" (If you do not have a copy of this guide please contact your Network to obtain a copy);
- 1 compare internal facility-specific outcome data on core indicators with its Network area and the national outcomes to identify opportunities to improve care;
- 1 if needed, contact Network staff and Medical Review Board members for assistance in identifying opportunities for improvement and the development of interventions to achieve improvement; and
- 1 look for the complete report of the initial results of the 1998 ESRD Core Indicators Project which will be sent to all ESRD facilities.

In 1999, ESRD Networks, in collaboration with ESRD facilities, will once again assess the clinical measures of the ESRD Core Indicators for adult, in-center HD patients in the U.S. If you have any questions about the information presented in this report please contact the ESRD Network office in your area.

Network #	Telephone #	Network #	Telephone #
1	(203) 387-9332	10	(317) 257-8265
2	(212) 289-4524	11	(651) 644-9877
3	(609) 395-5544	12	(816) 880-9990
4	(412) 647-3428	13	(405) 843-8688
5	(804) 794-3757	14	(972) 503-3215
6	(919) 876-7545	15	(303) 831-8818
7	(813) 251-8686	16	(206) 923-0714
8	(601) 936-9260	17	(415) 472-8590
9	(317) 257-8265	18	(323) 962-2020

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- **Staff at more than 2,000 dialysis facilities in the U.S. who abstracted the requested information from medical records on more than 6,000 adult, in-center HD patients for each year, 1993, 1994, 1995, 1996, and 1997;**
- **the ESRD Core Indicators Workgroup; and**
- **the many other individuals in the renal community and HCFA who contributed to this work.**

THE ESRD CORE INDICATORS WORKGROUP Hemodialysis Subgroup

Evelyn Butera, MS, RN, CNN
Satellite Dialysis Centers, Inc
Redwood City, CA

Linda Moore, RD
SangStat Medical Corp
Germantown, TN

Susan Raulie, RN
Bay Area Dialysis Services
Corpus Christi, TX

Susan Stark
ESRD Networks 9 & 10
Indianapolis, IN

Jay Wish, MD
University Hospital of Cleveland
Cleveland, OH

Curtis Johnson, PharmD
University of Wisconsin
Madison, WI

William F. Owen, Jr., MD
Brigham & Women's Hospital
Boston, MA

Michael Rocco, MD
Wake Forest University School of Medicine
Winston-Salem, NC

Lisa Taylor, RN
ESRD Network 12
Kansas City, MO

Pamela R. Frederick, MSB
Diane Frankenfield, DrPH
Kay Hall, BSN, RN, CNN
HCFA (Baltimore and Dallas)

Look for this report on the Internet HCFA's Web Site: www.hcfa.gov/quality/qlty-3c.htm